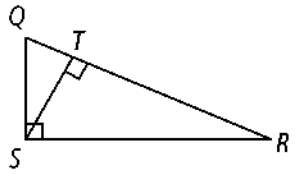
Name _____ Class _____ Date_____

7-4 Practice

Form G

Similarity in Right Triangles

Identify the following in right ΔQRS.



1. the hypotenuse

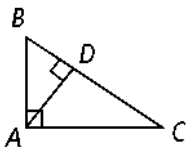
2. the segments of the hypotenuse

3. the altitude

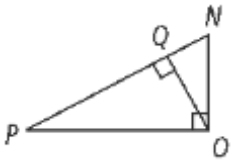
4. the segment of the hypotenuse adjacent to leg $\overline{QS}$

Write a similarity statement relating the three triangles in the diagram.

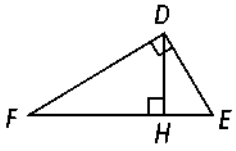
5.



6.



7.

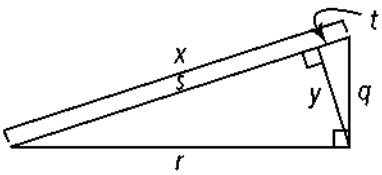


Algebra Find the geometric mean of each pair of numbers.

11. 9 and 4 **12.** 14 and 6 **13.** 9 and 30

Use the figure at the right to complete each proportion.

20. $\frac{q}{r} = \frac{\square}{y}$ **21.** $\frac{s}{y} = \frac{\square}{t}$ **22.** $\frac{t}{q} = \frac{q}{\square}$



Name _____ Class _____ Date _____

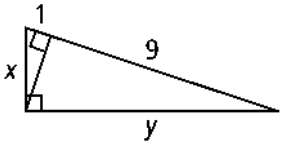
7-4 Practice (continued)

Form G

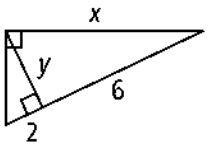
Similarity in Right Triangles

Algebra Solve for the value of the variables in each right triangle.

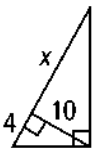
26.



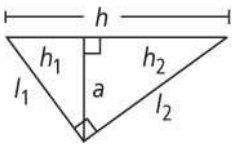
27.



28.



The diagram shows the parts of a right triangle with an altitude to the hypotenuse. For the two given measures, find the other four. Use simplest radical form.



32. $h = 12, h_1 = 4$

34. $l_1 = 6\sqrt{3}, h_2 = 3$

36. The altitude of the hypotenuse of a right triangle divides the hypotenuse into 45 in. and 5 in. segments. What is the length of the altitude?

38. Draw a Diagram The sides of a right triangle measure $6\sqrt{3}$ in., 6 in., and 12 in. If an altitude is drawn from the right angle to the hypotenuse, what is the length of the segment of the hypotenuse adjacent to the shorter leg? What is the length of the altitude?